



May 18, 2006

Union Electric
Callaway Plant
P.O. Box 620
Fulton, MO 65251-0620

VETIP Coord. Nuclear Engineering

Subject: Nuclear Industry Advisory

PRIME Measurement Products, formerly Barton Instrument Systems & ITT Barton, is a supplier of basic components to the commercial nuclear power industry. The specific components being reported are Barton Model 763 and 763A Gage Pressure Transmitters and Model 764 Differential Pressure Transmitters.

PRIME has identified that some of the listed products may have defective external lead-wire connectors that could affect the performance of the instruments during an accident.

The attached advisory identifies a condition that might be reportable under 10CFR21 depending on the specific application using the instruments manufactured by PRIME. We are notifying you of this situation to allow a determination of the safety significance to be made. PRIME Measurement Products apologizes for any inconvenience this situation causes.

The attached notification identifies the specifics of our concerns and recommends inspection and replacement of any defective connector assemblies for transmitters shipped from the factory after May 1982 and before April 2006.

Questions regarding this issue should be addressed to Mark Larson, Nuclear & Government Product Engineering Manager, at (626) 961-2547, extension 228.

Sincerely,

A handwritten signature in black ink, appearing to read "Thomas Roide".

Thomas Roide
Quality Manager

cc: David Baker, President and CEO

Attachment: 2 pages

PRIME Measurement Products, LLC

NUCLEAR INDUSTRY ADVISORY

May 18, 2006

Barton Transmitter Defective Connectors

PRIME Measurement Products, formerly Barton Instrument Systems & ITT Barton, is a supplier of basic components to the commercial nuclear power industry. The specific components being reported are Barton Model 763 and 763A Gage Pressure Transmitters and Barton Model 764 Differential Pressure Transmitters manufactured after May of 1982 and shipped from the factory prior to April 1, 2006.

PRIME has identified that some of the listed products may have been assembled with defective external lead-wire connectors that could affect the performance of the instruments during an accident condition.

The external lead wires enter the electronics enclosure through a hermetic seal called a connector assembly. The external lead wires are soldered to the glass sealed pins of the hermetic seal and epoxy potting is used to structurally support the soldered wire connections and establish a seal to protect the solder connections from shorting that could be caused by an electrically conductive accident environment. The defect is that the insulated portions of the wires in connectors manufactured after May of 1982 may not be embedded deeply enough into the epoxy potting to provide an electrical connection that would not be affected by an accident environment. In some cases, stress during the normal manufacturing process has pulled the insulated portion of the wires from the epoxy potting leaving the conductors exposed directly to the environment. In other cases the wires have actually severed due to the stress imposed on these wire connections. It may be possible that handling of the transmitters in the field may have also caused the wire conductors to become exposed.

Connector assemblies manufactured prior to June of 1982 were assembled with heat shrink on the external lead wires where they are embedded into the epoxy potting. This configuration is the as-tested configuration and is not subject to the concerns of this Advisory. Any connector assembly with heat shrink applied to each wire individually that enters the epoxy potting is not considered defective and need not be replaced. In June of 1982 the heat shrink on each of the two wires was eliminated as a design improvement.

Recently, there have been a small number of units where defective lead wires have been identified. One unit with a severed wire was discovered at a nuclear power plant during receiving inspection activities and another with a severed lead wire was discovered during cleaning activities under PRIME's control prior to shipment of the unit to a customer. Inspection of connector assemblies in the factory inventory identified some connectors with a single exposed wire, but no connectors with damaged wires were discovered. PRIME immediately stopped shipment of all transmitters until the connector manufacturing process was revised and acceptable connector assemblies were available.

PRIME has now improved the connector assembly manufacturing and inspection processes. The revised manufacturing process involves the use of enhanced manufacturing fixtures and more detailed assembly instructions. The revised inspection process will ensure the adequacy of the assembly by verifying that the insulated portions of the wires are deep enough into the assembly to provide a quality bond with the epoxy.

Conductors exposed to an accident environment could result in degraded instrument performance. However, the actual transmitter installation may preclude shorting of exposed conductors due to the existence of conduit, conduit seals and special wire connectors that could protect exposed wires at a defective connector from conductive moisture.

PRIME recommends that all connectors in transmitters manufactured after May of 1982 be inspected for exposure of the external lead-wire conductors at the surface of the connector. This inspection will necessitate that the connector be unscrewed from the transmitter following the instructions in the Installation and Operation Manual using a special connector removal/installation tool (PRIME P/N 0764-1174B). The external lead wires should be flexed during this inspection to assure that the insulated portions of the wires are securely embedded into the epoxy. The external wires can be flexed 90° such that the insulated portion of the wires touches the flange of the connector assembly. The area of the insulated wire penetration into the epoxy potting should be visually inspected for any evidence of the wire conductors while the wires are flexed. The 90° flex test should be repeated by flexing the external lead wires in the opposite direction. Any connector where the conductors of either wire are observable should be considered defective and replaced.

New connector assemblies manufactured under the revised processes are manufactured with external lead lengths of 8 feet (PRIME P/N 0764-1221B which replaced identical P/N 0764 1062B in January of 1982), 15 feet (PRIME P/N 0764-1250B) and 60 feet (PRIME P/N 0764-1271B). Each connector assembly has two O-rings (PRIME P/N 0001-1051R) which should also be replaced. O-rings should be lightly lubricated with a silicone grease (PRIME P/N 0002-1003U) before a connector assembly is installed.

Care should be taken during the connector installation process to avoid stressing the potted wiring joints. Counter-clockwise winding of the external lead wires such that they unwind during the process of screwing the connector assembly into the transmitter conduit connection is highly recommended to limit the stress during the connector assembly installation process. Temporary removal of the potentiometer assembly by removing the two potentiometer bracket mounting screws will significantly improve connector removal and replacement accessibility to the internal lead wires that attach directly to the circuit board.

Any new Barton Model 763, 763A or 764 transmitter shipped from the PRIME factory after April 1, 2006 have connector assemblies installed that have been manufactured under the revised processes described above and are not subject to the concerns identified in this notification. Barton Model 763, 763A or 764 transmitters recently at the factory for repair activities and shipped from the factory after April 1, 2006 have had their connector assemblies inspected and replaced, if necessary.

Questions regarding this issue should be addressed to Mark Larson, Nuclear & Government Product Engineering Manager, at (626) 961-2547, extension 228. To order transmitter replacement connector assemblies please contact Mabel Loo, Contracts Administration Manager, at (626) 937-0335.